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Attorney Docket No.: SONY-17900

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re Application of: | ) | Group Art Unit: 2623 |
| Robert A. Unger | ) | Examiner: Lonsberry, Hunter B. |
| Serial No.: 09/835,991 | ) | **APPEAL BRIEF** |
| Filed: April 16, 2001 | ) | 162 N. Wolfe Road<br>Sunnyvale, CA 94086 |
| For: **LOW-POWER BROADCAST RECEIVER** | ) | (408) 530-9700 |
| | ) | Customer No. 28960 |

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In furtherance of patent owner's Notice of Appeal filed on June 29, 2007, and in response to the Notification of Non-Compliant Appeal Brief dated October 1, 2007, a revised compliant Appeal Brief is submitted herewith. This Appeal Brief is written in support of the patent owner's Notice of Appeal filed on June 29, 2007, and further pursuant to the rejection mailed on December 29, 2006.

Claims 1-16, 18-21 and 23 have been rejected. The Applicants submit this Appeal Brief to the Board of Patent Appeals and Interferences in compliance with the requirements of 37 C.F.R. § 41.37, as stated in *Rules of Practice Before the Board of Patent Appeals and Interferences (Final Rule)*, 69 Fed. Reg. 49959 (August 12, 2004). The Applicants contend that the rejections of Claims 1-16, 18-21 and 23 in this proceeding are in error and are overcome by this appeal.

**CERTIFICATE OF MAILING (37 CFR§ 1.8(a))**
**I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the U.S. Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450**

**HAVERSTOCK & OWENS LLP.**
**Date:** 10/9/07 **By:** M Helena

## I. REAL PARTIES IN INTEREST

As the assignee of the entire right, title, and interest in the above-captioned patent application, the real parties in interest in this appeal, is:

Sony Corporation, a Japanese corporation
6-7-35 Kitashinagawa, Shinagawa
Tokyo, 141, Japan

Sony Electronics Inc., a corporation of the State of Delaware
1 Sony Drive
Park Ridge, NJ 07656-8003

per the assignment document filed on April 16, 2001.

## II. RELATED APPEALS AND INTERFERENCES

The Applicants are not aware of any other appeals or interferences related to the present application.

## III. STATUS OF THE CLAIMS

Claims 1-16, 18-21 and 23 are pending in this case. Claims 1, 2, 4-9, 11 and 13-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,658,231 to Nakatsuyama (hereinafter "Nakatsuyama", a copy of which is attached as Exhibit A) in view of U.S. Patent No. 6,271,893 to Kawaguchi et al. (hereinafter "Kawaguchi", a copy of which is attached as Exhibit B) and U.S. Patent No. 6,690,655 to Miner et al. (hereinafter "Miner", a copy

of which is attached as Exhibit C). Claims 16 and 18-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of U.S. Patent No. 6,054,981 to Kimoto et al. (hereinafter "Kimoto", a copy of which is attached as Exhibit D) and in view of Miner. Claims 3, 10, and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Kimoto and further in view of U.S. Patent Application Publication No. 2002/0073423 to Krakirian (hereinafter "Krakirian", a copy of which is attached as Exhibit E). Claims 21 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Miner. Within this Appeal Brief, the rejections of Claims 1-16, 18-21 and 23 are appealed.

## IV. STATUS OF THE AMENDMENTS FILED AFTER FINAL REJECTION

An Amendment and Response was filed by the appellants on February 23, 2007, in response to the Final Office Action mailed on December 29, 2006. This Amendment and Response contained no amendments to the Specification or the Claims and included only a request for reconsideration in view of the included comments. No Advisory Action or other response was received. Therefore, the claims on appeal are as filed on September 19, 2005 in the Amendment and Request for Continued Examination (RCE) following the Office Action mailed July 25, 2005.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention disclosed in the present application number 09/835,991 is directed to a broadcast receiver capable of operating in a power-saving standby mode while retaining the ability to receive broadcast program, software and firmware updates. The receiver has a broadcast interface that incorporates an update sensor adapted to sense broadcast updates. The receiver includes a wake-up switch that deprives the most power hungry circuits of power in the standby mode. The update sensor, remains active at all times. If the receiver receives a wake-up instruction in the standby mode, then the update sensor closes the wake-up switch to provide power to those components needed to receive the update.

The elements of Claim 1, directed to one embodiment of the present invention, are described in the Specification at least at page 5, paragraph 21 and 22, page 6, paragraph 22 and 23, page 7, paragraphs 27-29, page 8, paragraphs 29-31, page 9, paragraphs 31-33, page 10, paragraphs 34 and 35, and the accompanying Figures 3, 4 and 5. The broadcast receiver described there comprises a power supply (220) having a power-supply output terminal and a broadcast interface circuit (302). The broadcast interface circuit (302) includes an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency, a tuner having a tuner (400) input terminal coupled to the interface circuit input terminal, wherein the tuner (400) selects one of the signals and provides the selected signal on a tuner output terminal, a wake-up sensor (306) having a sensor input terminal coupled to the interface circuit input terminal and a wake-up sensor output terminal, wherein the wake-up sensor (306) produces a wake-up signal on the wake-up sensor output terminal directly in response to receiving a first selected signal and a wake-up switch (304) having a wake-up switch input terminal coupled to the power-supply output terminal, a wake-up switch output terminal, and a wake-up switch control terminal coupled to the wake-up sensor output terminal to receive the wake-up signal, wherein the wake-up switch (304) is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal.

The elements of Claim 8, directed to one embodiment of the present invention, are described in the Specification at least at page 1, paragraphs 2 and 3, page 3, paragraph 8, page 5, paragraphs 21 and 22, page 6, paragraphs 22 and 23, page 7, paragraphs 27-29, page 8, paragraphs 29-31, page 9, paragraphs 31-33, page 10, paragraphs 34 and 35, and the accompanying Figures 1, 3, 4 and 5. The broadcast communication network (100) described there comprises a broadcast head-end (102) adapted to broadcast a plurality of signals about a corresponding plurality of carrier frequencies, the signals including an occasional wake-up instruction and a plurality of receivers (300) adapted to receive the plurality of signals. Each receiver (300) includes a power supply (220) having a power-supply output terminal and a

broadcast interface circuit. The broadcast interface circuit (302) includes an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency, a wake-up sensor (306) having a sensor input terminal coupled to the interface circuit input terminal and a wake-up sensor output terminal, wherein the wake-up sensor (306) produces a wake-up signal on the wake-up sensor output terminal directly in response to receiving a first selected signal and a wake-up switch (304) having a wake-up switch input terminal coupled to the power-supply output terminal, a wake-up switch output terminal, and a wake-up switch control terminal coupled to the wake-up sensor output terminal to receive the wake-up signal, wherein the wake-up switch (304) is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal.

The elements of Claim 16, directed to one embodiment of the present invention, are described in the Specification at least at page 2, paragraph 5, page 5, paragraphs 21 and 22, page 6, paragraphs 22-24, page 7, paragraphs 25-29, page 8, paragraphs 29-31, page 9, paragraphs 31-33, page 10, paragraphs 34-36, and the accompanying Figures 2, 3, 4 and 5. The method of reducing power usage in a broadcast receiver (300) described there comprises monitoring, in a standby mode, a user-input device (214) for a power-on instruction, indicating a power-on condition for the receiver (300) in response to the power-on instruction, monitoring the user-input device (214) for a power-off instruction, indicating a standby condition for the receiver (300) in response to the power-off instruction, monitoring, with the receiver (300) in the standby condition, a broadcast communication channel for a wake-up instruction and providing power to a first portion (302, 202, 210, 212) including a control processor (202) of the receiver (300) and indicating a standby condition for the receiver (300) while receiving a receiver update, in direct response to receiving the wake-up instruction.

The elements of Claim 21, directed to one embodiment of the present invention, are described in the Specification at least at page 5, paragraphs 21 and 22, page 6, paragraphs 22-24, page 7, paragraphs 25-29, page 8, paragraphs 29-31, page 9, paragraphs 31-33, page 10,

paragraphs 34 and 35, and the accompanying Figures 3, 4 and 5. The receiving device (50) to provide an output data stream described there comprises means for monitoring (214, 302, 304, 310) a user-input device (214) for a power-on instruction, display means (216) for indicating a power-on condition for the receiver (300) in response to the power-on instruction, means for monitoring (214, 302, 304, 310) the user-input device (214) for a power-off instruction, means responsive (214, 216, 310) to the power-off instruction for indicating a power-off condition for the receiver (300) and means for monitoring (302, 304, 306) a broadcast communication channel for a wake-up instruction with the receiver (300) in the power-off condition, wherein the means for monitoring (302, 304, 306) the broadcast communication channel includes a power switch (410) for providing power to a control processor (202) in direct response to the wake-up instruction.

Means for monitoring a user-input device for a power-on instruction is shown in Figures 3 and 4. The IR interface 214 has a control output ON connected to a second power switch 310 and broadcast interface 302. If the user instructs receiver 300 to turn on, via the IR interface 214 or an optional switch on receiver 214, then the control signal on line ON closes the wake-up switch 304 to provide power to those components needed to receive the incoming signal, such as the processor 202, the display 216, the audio DAC 206, and the video encoder 208. The signal on line ON also closes switch 310 to provide power to the user display 216, the audio DAC 206, and the video encoder 208. Closing the switch 310 provides a visual indication of the "on" condition and presents the requisite signals to the associated display, e.g., television 106. In one embodiment, the receiver 300 provides switched line-in voltage to a socket on the receiver 300 to control power applied to the television 106 or some other component. [Present Specification, page 6, ¶ 0024]

Display means for indicating a power-on condition for the receiver in response to the power-on instruction is shown in Figures 1 and 3. The signal on line ON also closes switch 310 to provide power to the user display 216, the audio DAC 206, and the video encoder 208. Closing the switch 310 provides a visual indication of the "on" condition and presents the

requisite signals to the associated display, e.g., television 106. In one embodiment, the receiver 300 provides switched line-in voltage to a socket on the receiver 300 to control power applied to the television 106 or some other component. [Present Specification, page 6, ¶ 0024]

Means for monitoring the user-input device for a power-off instruction is shown in Figures 3 and 4. If the user issues a power-off instruction, typically user a remote control to communicate with the IR interface 214, then the control signal on line ON opens the switches 304 and 310 to remove power from the components connected to the power supply 220 via switched-power lines SP1 and SP2. This action places the receiver 300 in a standby mode; power is still applied to the IR interface 214 and broadcast interface 302: update-sensor 306 remains on to detect the presence of updates, such as a new program guide or a software or firmware upgrade. [Present Specification, page 7, ¶ 0025]

Means responsive to the power-off instruction for indicating a power-off condition for the receiver is shown in Figures 3 and 4. If the user issues a power-off instruction, typically user a remote control to communicate with the IR interface 214, then the control signal on line ON opens the switches 304 and 310 to remove power from the components connected to the power supply 220 via switched-power lines SP1 and SP2. This action places the receiver 300 in a standby mode; power is still applied to the IR interface 214 and broadcast interface 302: update-sensor 306 remains on to detect the presence of updates, such as a new program guide or a software or firmware upgrade. [Present Specification, page 7, ¶ 0025]

Means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition is shown in Figures 3-5. The wake-up switch 304 includes an OR gate 406 connected to a conventional power switch 410, typically a relay. Sensor 306 in turn includes a simple tuned circuit adapted to monitor a wake-up signal associated with one broadcast carrier frequency. In one example, the sensor 306 produces an enabling logic-one output signal to the OR gate 406 if the amplitude of the broadcast wake-up signal rises above a predetermined level for a period of time sufficient to reject noise spikes, the rise in amplitude representing a wake-up instruction. If the sensor 306 produces a logic one on one input of the

OR gate 406, then the OR gate 406 produces a logic one output signal that closes the power switch 410. Broadcast interface 302 thus applies power via the switched power line SP1 to whatever components are required to receive a subsequently broadcast update. [Present Specification, pages 7 and 8, ¶ 0029]

## VI. GROUNDS OF REJECTION AND OTHER MATTERS TO BE REVIEWED ON APPEAL

The following issues are presented in this Appeal Brief for review by the Board of Patent Appeals and Interferences:

1. Whether Claims 1, 2, 4-9, 11 and 13-15 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakatsuyama in view of Kawaguchi and Miner.
2. Whether Claims 16 and 18-20 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Kimoto and in view of Miner.
3. Whether Claims 3, 10, and 12 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Kimoto and further in view of Krakirian.
4. Whether Claims 21 and 23 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Miner.

## VII. ARGUMENT

*Grounds for Rejection*

Within the Office Action, Claims 1, 2, 4-9, 11 and 13-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakatsuyama in view of Kawaguchi and Miner.

*Outline of Arguments*

In the discussion that follows, the Applicants first discuss the teachings of Nakatsuyama and the teachings of Kawaguchi and Miner. The Applicants then analyze the pending claims and their limitations and explain why the combination of Nakatsuyama, Kawaguchi and Miner does not teach the claimed invention.

1. The combination of Nakatsuyama, Kawaguchi and Miner does not teach a wake-up sensor which sends a wake-up signal to a wake-up switch in direct response to a first selected signal.

Nakatsuyama teaches a receiver for user-demand information and entertainment system using wide area digital broadcast. Nakatsuyama teaches that the information system provides selected information to individual users through a receiver 40. Program data is broadcast to the receiver 40 according to a program data signal 36. Index data is receiver specific information and includes a receiver identifier, as well as time and tuner information, which is used to receive, download and store the user's selected program. [Nakatsuyama, col. 5, lines 59-61] Nakatsuyama further teaches that the time and channel components identify the appropriate channel and time to which the receiver tunes to receive the index data associated with the receiver's identifier, allowing the receiver to operate in a low power mode. [Nakatsuyama, col. 7, lines 32-39] Nakatsuyama also teaches that the low power mode is achieved by earlier sending time information, via the index data, which allows the receiver to operate in low power mode

until the appropriate time. However, as is noted on page 6 of the Office Action, *Nakatsuyama does not teach a* ***wake-up switch***. Further, *no where does Nakatsuyama teach a* ***wake-up sensor*** *which operates the wake-up switch* ***in direct response to a wake-up instruction***.

Kawaguchi teaches a digital television broadcasting system. Kawaguchi teaches that a broadcasting system 1 includes a digital TV transmitter 2 for transmitting a transport stream from a satellite space station 3 to a multiplicity of digital TV receivers 4. [Kawaguchi, col. 3, lines 30-43, Figure 1] Kawaguchi also teaches a second transmission media 5 other than the satellite 3 to inform the TV receivers 4 of irregular broadcasts. [Kawaguchi, col. 3, lines 30-43, Figure 1] Kawaguchi teaches that the second transmission media 5 may be any transmission media which is other than the broadcasting satellite 3 and which causes the power consumption in each TV receiver 4 during waiting for a communication from the earth station 2 to be less than the power consumption in each TV receiver 4 during receiving the program information without using program contents. [Kawaguchi, col. 3, lines 43-50] Kawaguchi teaches maintaining an alteration time list 340 and at each TV receiver 4, an update time list. [Kawaguchi, col. 7, lines 6-23] Kawaguchi teaches that at the update time, the switch 231 is turned on. [Kawaguchi, col. 7, lines 24-39, Figure 7A] *Kawaguchi does not teach a* ***wake-up sensor*** *which operates a* ***wake-up switch in direct response to a wake-up instruction***. Instead, Kawaguchi teaches that the switch 231 is turned on at the update time. Furthermore, *Kawaguchi does not teach a means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition.*

Miner is directed to a low-powered communication system and method of operation. Miner teaches that a communication system includes a network control facility, an information distribution network, at least one remote interface unit and at least one communication device associated with and operably coupled to each remote interface unit. [Miner, col. 3, lines 62-66] Miner defines the remote interface unit as either a cable modem or a wireless modem. [Miner, col. 4, lines 29-30] *Miner does not teach a broadcast receiver with tuning capabilities.* Miner teaches that each remote interface operates in a low-power standby mode and a high-power,

active mode. [Miner, col. 4, lines 7-9] Miner teaches that the network control facility communicates special information, such as a wake-up command on a secondary downstream channel to the remote interface unit. [Miner, col. 4, lines 13-17] As taught by Miner, the wake-up command instructs the remote interface unit to transition from standby mode to active mode in order to receive user or control information over the primary downstream channel. [Miner, col. 4, lines 17-20] *Miner does not teach an update sensor which operates a* ***wake-up switch*** *in direct response to a* ***wake-up instruction*** *within a broadcast receiver.*

There is no hint, teaching or suggestion to warrant the combination of Nakatsuyama, Kawaguchi and Miner. As discussed above, Nakatsuyama teaches sending preselected user-specific information to a user's personal receiver. [Nakatsuyama, col. 2, lines 3-11] Kawaguchi contrarily teaches a digital television broadcasting system which transmits a transport stream to receivers. [Kawaguchi, col. 2, lines 11-13] Miner teaches controlling a remote interface unit, defined as either a cable modem or a wireless modem. [Miner, col. 4, lines 29-30] Accordingly, there is no hint, teaching or suggestion to warrant the combination of the user-specific transmission of Nakatsuyama with the digital television broadcasting system of Kawaguchi. Further, there is no hint, teaching or suggestion to warrant the combination of the broadcasting systems of Nakatsuyama and Kawaguchi with the cable modem system of Miner. It is simply not permissible to conclude that this is an obvious combination without a hint, teaching or suggestion to warrant the combination.

It is well settled that to establish a *prima facie* case of obviousness, three basic criteria must be met:

1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
2) there must be a reasonable expectation of success; and
3) the prior art reference, or references, must teach or suggest all the claim limitations. MPEP § 2143.

The burden of establishing a *prima facie* case of obviousness based on the teachings of Nakatsuyama, Kawaguchi and Miner has not been met within the Office Action.

Within the Office Action, the motivation that is cited to justify the combination of Nakatsuyama, Kawaguchi and Miner is to utilize the transmission scheme and wake up commands of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel. This is the result of the combination, which is an improper basis for justifying the combination. In order to be proper, as stated within section 2143 of the MPEP, quoted above, "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." Here, within the Nakatsuyama, Kawaguchi or Miner references, there is no suggestion or motivation within the references themselves to warrant their combination. Further, there is no suggestion or motivation in the knowledge that was generally available to one of ordinary skill in the art to combine the references. By justifying the combination with the result of the combination, this result being the advantages of the presently claimed invention, it is clear that the combination of Nakatsuyama, Kawaguchi and Miner has been based on hindsight. Only with the presently claimed invention as a template would one find the "motivation" or result provided within the Office Action. Accordingly, the combination of Nakatsuyama with Kawaguchi and Miner is improper.

Furthermore, "[t]he test for an implicit showing [of a teaching, suggestion or motivation] is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370 (Fed. Cir. 2000). Moreover, "particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." Kotzab at 1371.

In Kotzab, the claims focused on an injection molding method using a single temperature sensor to control a plurality of flow control valves. The reference taught a multizone device

having multiple sensors, each of which controlled an associated flow control valve, and also taught that one system may be used to control a number of valves. The court found there was insufficient evidence to show that one sensor was the same as one system. Although the control of multiple valves by a single sensor rather than by multiple sensors was a "technologically simple concept," there was no finding "as to the specific understanding or principle within the knowledge of the skilled artisan" that would have provided the motivation to use a single sensor as the system to control more than one valve. Kotzab at 1371.

In the present case, as in Kotzab, there are no showings of particular findings that a skilled artisan, with no knowledge of the claimed invention, would have selected the components from Nakatsuyama, Kawaguchi and Miner for combination in the manner claimed. As discussed above, Nakatsuyama teaches sending preselected user-specific information to a user's personal receiver. Kawaguchi teaches a digital television broadcasting system, not a receiver, which transmits a transport stream to receivers. Miner teaches controlling a remote interface unit, defined as either a cable modem or a wireless modem. This is comparable to the court in Kotzab rejecting the argument that one sensor was the same as one system and stating that there was no finding as to a specific understanding or principle that would have provided the motivation to use a single sensor as a system to control more than one valve. The court did not allow a system to be interchanged with a sensor nor should within the present case, a broadcast system be interchanged with a receiver or a cable modem. To conclude that this is obvious based on the teachings of these references is to use hindsight based on the teachings of the present invention and to read much more into Nakatsuyama, Kawaguchi and Miner than their actual teachings.

Within the Response to Arguments section of the Office Action, it is argued that the motivation to combine is that Kawaguchi teaches the use of a receiver that ensures the reception of program information and any irregular program, while saving the power consumption in the receiver. This does not establish the requisite *prima facie* case to warrant the combination of Kawaguchi with Nakatsuyama. Again, this merely shows the result of the combination. The

only motivation for this improper combination is using the presently claimed invention as a template. This is therefore not a proper combination.

There is no motivation to combine the teachings of Nakatsuyama, Kawaguchi and Miner. As discussed above, Nakatsuyama teaches sending preselected user-specific information to a user's personal receiver. Kawaguchi teaches a digital television broadcasting system which transmits a transport stream to receivers. Miner teaches controlling a remote interface unit, defined as either a cable modem or a wireless modem. A person skilled in the art would have no motivation to combine the teachings of Miner with the teachings of Nakatsuyama and Kawaguchi. Accordingly, the rejection of Claims 1, 2, 4-9, 11 and 13-15 based on the combination of Nakatsuyama, Kawaguchi and Miner, is not proper and should be withdrawn.

Even if considered proper, the combination of Nakatsuyama, Kawaguchi and Miner does not teach a low-power broadcast receiver which includes a wake-up sensor and a wake-up switch as claimed within the present claims. As described above, Nakatsuyama does not teach a wake-up sensor which sends a wake-up signal to a wake-up switch in direct response to a first selected signal. Kawaguchi teaches a digital television broadcasting system. On page 5 of the Office Action, as related to Claim 1, Kawaguchi is cited for having a wake-up switch to receive a wake-up signal and closing the wake-up switch in response to receiving the wake-up signal.

Claims 1 and 8 include a limitation directed to "a wake-up sensor having a sensor input terminal coupled to the interface circuit input terminal and a wake-up sensor output terminal, wherein the wake-up sensor produces a wake-up signal on the wake-up sensor output terminal directly in response to receiving a first selected signal" (emphasis added). As recognized within the Office Action, the combination of Nakatsuyama and Kawaguchi fail to disclose the use of a wake up signal in direct response to a first selected signal. Miner appears to be cited for this purpose. However, as described above, Miner teaches controlling a remote interface unit, defined as either a cable modem or a wireless modem. Miner does not teach a wake-up sensor which sends a wake-up signal to a wake-up switch in direct response to a first selected signal.

In contrast to the teachings of Nakatsuyama, Kawaguchi, Miner and their combination, the low-power broadcast receiver of the presently claimed invention is directed to a broadcast receiver capable of operating in a power-saving standby mode while retaining the ability to receive broadcast program, software and firmware updates. The receiver has a broadcast interface that incorporates an update sensor adapted to sense broadcast updates. The receiver includes a wake-up switch that deprives the most power hungry circuits of power in the standby mode. The update sensor, remains active at all times. If the receiver receives a wake-up instruction in the standby mode, then the update sensor closes the wake-up switch to provide power to those components needed to receive the update. *As described above, neither Nakatsuyama, Kawaguchi, Miner nor their combination teach a wake-up sensor which sends a wake-up signal* ***to a wake-up switch*** *in direct response to a first selected signal.*

Within the Response to Arguments section of the Office Action, it is argued that one cannot show nonobviousness by attacking references individually when the rejections are based on combinations of references. The Applicants have not attacked the references individually. The Applicants have shown that none of the references individually teach a wake-up sensor which sends a wake-up signal to a wake-up switch in direct response to a first selected signal. Logically, if none of the references individually teach this element, then the improper combination of the references cannot teach this element.

2. The claims distinguish over Nakatsuyama, Kawaguchi and Miner and their combination.

The claims are grouped separately below to indicate that they do not stand or fall together.

a. Claim 1

The independent Claim 1 is directed to a broadcast receiver. The broadcast receiver of Claim 1 comprises a power supply having a power-supply output terminal and a broadcast interface circuit. The broadcast interface circuit includes an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency, a tuner having a tuner input terminal coupled to the interface circuit input terminal, wherein the tuner selects one of the signals and provides the selected signal on a tuner output terminal, a wake-up sensor having a sensor input terminal coupled to the interface circuit input terminal and a wake-up sensor output terminal, wherein the wake-up sensor produces a wake-up signal on the wake-up sensor output terminal directly in response to receiving a first selected signal and a wake-up switch having a wake-up switch input terminal coupled to the power-supply output terminal, a wake-up switch output terminal, and a wake-up switch control terminal coupled to the wake-up sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal. As described above, the combination of Nakatsuyama, Kawaguchi, and Miner is improper. As also described above, neither Nakatsuyama, Kawaguchi, Miner nor their combination teach a wake-up sensor which sends a wake-up signal **to a wake-up switch** in direct response to a first selected signal. For at least these reasons, the independent Claim 1 is allowable over Nakatsuyama, Kawaguchi, Miner and their combination.

b. Claims 2 and 4-7

Claims 2 and 4-7 are all dependent on the independent Claim 1. As described above, the independent Claim 1 is allowable over the teachings of Nakatsuyama, Kawaguchi, Miner and their combination. Accordingly, Claims 2 and 4-7 are all also allowable as being dependent on an allowable base claim.

c. Claim 8

The independent Claim 8 is directed to a broadcast communication network. The broadcast communication network of Claim 8 comprises a broadcast head-end adapted to broadcast a plurality of signals about a corresponding plurality of carrier frequencies, the signals including an occasional wake-up instruction and a plurality of receivers adapted to receive the plurality of signals. It is specified in Claim 8 that each receiver includes a power supply having a power-supply output terminal and a broadcast interface circuit. The broadcast interface circuit includes an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency, a wake-up sensor having a sensor input terminal coupled to the interface circuit input terminal and a wake-up sensor output terminal, wherein the wake-up sensor produces a wake-up signal on the wake-up sensor output terminal directly in response to receiving a first selected signal and a wake-up switch having a wake-up switch input terminal coupled to the power-supply output terminal, a wake-up switch output terminal, and a wake-up switch control terminal coupled to the wake-up sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal. As described above, the combination of Nakatsuyama, Kawaguchi, and Miner is improper. As also described above, neither

Nakatsuyama, Kawaguchi, Miner nor their combination teach a wake-up sensor which sends a wake-up signal **to a wake-up switch** in direct response to a first selected signal. For at least these reasons, the independent Claim 8 is allowable over Nakatsuyama, Kawaguchi, Miner and their combination.

d. Claim 9, 11 and 13-15

Claims 9, 11 and 13-15 are all dependent on the independent Claim 8. As described above, the independent Claim 8 is allowable over the teachings of Nakatsuyama, Kawaguchi, Miner and their combination. Accordingly, Claims 9, 11 and 13-15 are all also allowable as being dependent on an allowable base claim.

*Grounds for Rejection*

Within the Final Office Action, Claims 16 and 18-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Kimoto and in view of Miner.

*Outline of Arguments*

In the discussion that follows, the Applicants first discuss the teachings of Kawaguchi and the teachings of Kimoto and Miner. The Applicants then analyze the pending claims and their limitations and explain why the combination of Kawaguchi, Kimoto and Miner does not teach the claimed invention.

3. The combination of Kawaguchi, Kimoto and Miner does not teach providing power to a control processor and indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving a wake-up instruction.

It is recognized within the Office Action that Kawaguchi does not teach an indicator for indicating various power modes. Kimoto appears to be cited for this proposition. However, as described above, *Kawaguchi does not teach a power mode in which* ***the controller*** *is powered off. Kawaguchi also does not teach a transition from one power mode to another power mode in which the controller is powered on in direct response to a wake-up instruction.* Instead, Kawaguchi teaches that the controller 225 is always powered on. As described above, Miner teaches controlling a remote interface unit, defined as either a cable modem or a wireless modem. Miner teaches receiving user information and control information to the remote interface unit when the remote interface unit *is in active mode. Miner does not teach providing power to a control processor and indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction.* Accordingly, neither Kawaguchi, Kimoto, Miner nor their combination teach providing power to a control processor and indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving a wake-up instruction.

4. The claims distinguish over Kawaguchi, Kimoto and Miner and their combination.

The claims are grouped separately below to indicate that they do not stand or fall together.

a. Claim 16

The independent Claim 16 is directed to a method of reducing power usage in a broadcast receiver. The method of Claim 16 comprises monitoring, in a standby mode, a user-input device for a power-on instruction, indicating a power-on condition for the receiver in response to the power-on instruction, monitoring the user-input device for a power-off instruction, indicating a standby condition for the receiver in response to the power-off instruction, monitoring, with the receiver in the standby condition, a broadcast communication channel for a wake-up instruction and providing power to a first portion including a control processor of the receiver and indicating a standby condition for the receiver while receiving a receiver update, **in direct response** to receiving the wake-up instruction. As described above, neither Kawaguchi, Kimoto, Miner nor their combination teach providing power to a control processor and indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving a wake-up instruction. For at least these reasons, the independent Claim 16 is allowable over the teachings of Kawaguchi, Kimoto, Miner and their combination.

b. Claims 18-20

Claims 18-20 are all dependent on the independent Claim 16. As described above, the independent Claim 16 is allowable over the teachings of Kawaguchi, Kimoto, Miner and their combination. Accordingly, Claims 18-20 are all also allowable as being dependent on an allowable base claim.

*Grounds for Rejection*

Within the Final Office Action, Claims 3, 10, and 12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Kimoto and further in view of Krakirian.

*Arguments*

Claim 3 is dependent on the independent Claim 1. Claims 10 and 12 are both dependent on the independent Claim 8. As described above, the independent Claims 1 and 8 are both allowable over the teachings of Nakatsuyama, Kawaguchi, Miner and their combination. Accordingly, Claims 3, 10 and 12 are all also allowable as being dependent on an allowable base claim.

*Grounds for Rejection*

Within the Final Office Action, Claims 21 and 23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawaguchi in view of Miner.

*Outline of Arguments*

In the discussion that follows, the Applicants first discuss the teachings of Kawaguchi and the teachings Miner. The Applicants then analyze the pending claims and their limitations and explain why the combination of Kawaguchi and Miner does not teach the claimed invention.

3. The combination of Kawaguchi and Miner does not teach a means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition, wherein the means for monitoring the broadcast communication channel includes a power switch for providing power to a control processor in direct response to the wake-up instruction.

As described above, Kawaguchi teaches a digital television broadcasting system. Kawaguchi teaches that a broadcasting system 1 includes a digital TV transmitter 2 for transmitting a transport stream from a satellite space station 3 to a multiplicity of digital TV receivers 4. [Kawaguchi, col. 3, lines 30-43, Figure 1] Kawaguchi also teaches a second transmission media 5 other than the satellite 3 to inform the TV receivers 4 of irregular broadcasts. [Kawaguchi, col. 3, lines 30-43, Figure 1] Kawaguchi teaches that the second transmission media 5 may be any transmission media which is other than the broadcasting satellite 3 and which causes the power consumption in each TV receiver 4 during waiting for a communication from the earth station 2 to be less than the power consumption in each TV receiver 4 during receiving the program information without using program contents. [Kawaguchi, col. 3, lines 43-50] Kawaguchi teaches maintaining an alteration time list 340 and at each TV receiver 4, an update time list. [Kawaguchi, col. 7, lines 6-23] Kawaguchi teaches that at the update time, the switch 231 is turned on. [Kawaguchi, col. 7, lines 24-39, Figure 7A] *Kawaguchi does not teach a means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition.* Instead, Kawaguchi teaches that the switch 231 is turned on at the update time, not in direct response to a wake-up signal.

Miner is directed to a low-powered communication system and method of operation. Miner teaches that a communication system includes a network control facility, an information distribution network, at least one remote interface unit and at least one communication device associated with and operably coupled to each remote interface unit. [Miner, col. 3, lines 62-66] Miner defines the remote interface unit as either a cable modem or a wireless modem. [Miner,

col. 4, lines 29-30] *Miner does not teach a broadcast receiver with tuning capabilities.* Miner teaches that each remote interface operates in a low-power standby mode and a high-power, active mode. [Miner, col. 4, lines 7-9] Miner teaches that the network control facility communicates special information, such as a wake-up command on a secondary downstream channel to the remote interface unit. [Miner, col. 4, lines 13-17] As taught by Miner, the wake-up command instructs the remote interface unit to transition from standby mode to active mode in order to receive user or control information over the primary downstream channel. [Miner, col. 4, lines 17-20] *Miner does not teach a means for monitoring the broadcast communication channel which includes a power switch for providing power to a control processor in direct response to the wake-up instruction.*

In contrast to the teachings of Kawaguchi, Miner and their combination, the low-power broadcast receiver of the presently claimed invention is directed to a broadcast receiver capable of operating in a power-saving standby mode while retaining the ability to receive broadcast program, software and firmware updates. The receiver has a broadcast interface that incorporates an update sensor adapted to sense broadcast updates. The receiver includes a wake-up switch that deprives the most power hungry circuits of power in the standby mode. The update sensor, remains active at all times. If the receiver receives a wake-up instruction in the standby mode, then the update sensor closes the wake-up switch to provide power to those components needed to receive the update. *As described above, neither Kawaguchi, Miner nor their combination teach a means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition, wherein the means for monitoring the broadcast communication channel includes a power switch for providing power to a control processor in direct response to the wake-up instruction.*

4. The claims distinguish over Kawaguchi and Miner and their combination.

The claims are grouped separately below to indicate that they do not stand or fall together.

a. Claim 21

The independent Claim 21 is directed to a broadcast receiver. The broadcast receiver of Claim 21 comprises means for monitoring a user-input device for a power-on instruction, display means for indicating a power-on condition for the receiver in response to the power-on instruction, means for monitoring the user-input device for a power-off instruction, means responsive to the power-off instruction for indicating a power-off condition for the receiver and means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition, wherein the means for monitoring the broadcast communication channel includes a power switch for providing power to a control processor in direct response to the wake-up instruction. *As described above, neither Kawaguchi, Miner nor their combination teach a means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition, wherein the means for monitoring the broadcast communication channel includes a power switch for providing power to a control processor in direct response to the wake-up instruction.* For at least these reasons, the independent Claim 21 is allowable over the teachings of Kawaguchi, Miner and their combination.

b. Claim 23

Claim 23 is dependent on the independent Claim 21. As described above, the independent Claim 21 is allowable over the teachings of Kawaguchi, Miner and their combination. Accordingly, Claim 23 is also allowable as being dependent on an allowable base claim.

5. CONCLUSION

For the above reasons, it is respectfully submitted that the Claims 1-16, 18-21 and 23 are allowable over the cited prior art references. Therefore, a favorable indication is respectfully requested.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: October 9, 2007 By: 
Jonathan O. Owens
Reg. No.: 37,902
Attorneys for Applicants

## VIII. CLAIMS APPENDIX

This appendix includes a list of the claims under appeal.

1. A broadcast receiver comprising:
   a. a power supply having a power-supply output terminal; and
   b. a broadcast interface circuit including:
      i. an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency;
      ii. a tuner having a tuner input terminal coupled to the interface circuit input terminal, wherein the tuner selects one of the signals and provides the selected signal on a tuner output terminal;
      iii. a wake-up sensor having a sensor input terminal coupled to the interface circuit input terminal and a wake-up-sensor output terminal, wherein the wake-up sensor produces a wake-up signal on the wake-up sensor output terminal directly in response to receiving a first selected signal; and
      iv. a wake-up switch having a wake-up-switch input terminal coupled to the power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal.

2. The receiver of claim 1, the wake-up sensor further including a second tuner tuned to a carrier frequency associated with the first selected signal.

3. The receiver of claim 2, the wake-up-sensor further comprising a digitizer coupled between the tuner and the wake-up-switch control terminal.

4. The receiver of claim 1, wherein the tuner includes a power terminal coupled to the wake-up-switch output terminal.

5. The receiver of claim 1, further comprising a display capable of indicating a power-on condition for the receiver, the display having a power-input terminal coupled to the power supply via a second switch.

6. The receiver of claim 5, wherein the display does not indicate a power-on condition in response to the wake-up signal.

7. The receiver of claim 1, further comprising a processor having a processor power terminal coupled to the wake-up-switch output terminal.

8. A broadcast communication network comprising:
   a. a broadcast head-end adapted to broadcast a plurality of signals about a corresponding plurality of carrier frequencies, the signals including an occasional wake-up instruction;
   b. a plurality of receivers adapted to receive the plurality of signals, each receiver including:
      i. a power supply having a power-supply output terminal; and
      ii. a broadcast interface circuit including:
         (1) an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency;

(2) a wake-up sensor having a sensor input terminal coupled to the interface circuit input terminal and a wake-up-sensor output terminal, wherein the wake-up sensor produces a wake-up signal on the wake-up-sensor output terminal directly in response to receiving a first selected signal; and

(3) a wake-up switch having a wake-up-switch input terminal coupled to the power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal.

9. The network of claim 8, the wake-up sensor further including a tuner tuned to a carrier frequency associated with the first selected signal.

10. The network of claim 9, the wake-up sensor further comprising a digitizer coupled between the tuner and the wake-up-switch control terminal.

11. The network of claim 9, the interface circuit including a second tuner having a turner input terminal coupled to the interface input terminal, wherein the second tuner is adapted to select one of the signals and provide the selected signal on a tuner output terminal.

12. The network of claim 11, further comprising a processor, the interface circuit further comprising a digitizer coupled between the tuner and the processor.

13. The network of claim 11, wherein the second tuner includes a power terminal coupled to the wake-up-switch output terminal.

14. The network of claim 8, further comprising, for each receiver, a display capable of indicating a power-on condition for the receiver, the display having a power-input terminal coupled to the power supply via a second switch.

15. The network of claim 14, wherein the display does not indicate a power-on condition in response to the wake-up instruction.

16. A method of reducing power usage in a broadcast receiver, the method comprising:
    a. monitoring, in a standby mode, a user-input device for a power-on instruction;
    b. indicating a power-on condition for the receiver in response to the power-on instruction;
    c. monitoring the user-input device for a power-off instruction;
    d. indicating a standby condition for the receiver in response to the power-off instruction;
    e. monitoring, with the receiver in the standby condition, a broadcast communication channel for a wake-up instruction; and
    f. providing power to a first portion including a control processor of the receiver and indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction.

17. (canceled)

18. The method of claim 16, further comprising, upon receipt of a power-on instruction in the standby condition, providing power to the first portion and a second portion of the receiver and indicating the power-on condition.

19. The method of claim 16, wherein indicating a power-on condition includes providing a video signal to a video display device.

20. The method of claim 16, wherein the user-input device comprises an infrared receiver.

21. (currently amended) A broadcast receiver comprising:

a. means for monitoring a user-input device for a power-on instruction;

b. display means for indicating a power-on condition for the receiver in response to the power-on instruction;

c. means for monitoring the user-input device for a power-off instruction;

d. means responsive to the power-off instruction for indicating a power-off condition for the receiver; and

e. means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition, wherein the means for monitoring the broadcast communication channel includes a power switch for providing power to a control processor in direct response to the wake-up instruction.

22. (canceled)

23. The receiver of claim 21, wherein the display means indicates the power-off condition when the power switch provides power to the processor in response to the wake-up instruction.

## IX. EVIDENCE APPENDIX

### STATEMENT

Pursuant to 37 C.F.R. § 41.37(c)(1)(ix), the following is a statement setting forth where in the record the evidence of this appendix was entered by the examiner:

| **Evidence Description:** | **Where Entered:** |
|---|---|
| U.S. Pat. No. 6,658,231 | Office Action mailed December 29, 2006 |
| U.S. Pat. No. 6,271,893 | Office Action mailed December 29, 2006 |
| U.S. Pat. No. 6,690,655 | Office Action mailed December 29, 2006 |
| U.S. Pat. No. 6,054,981 | Office Action mailed December 29, 2006 |
| U.S. Pat. Pub. No. 2002/0073423 | Office Action mailed December 29, 2006 |
| Office Action mailed December 29, 2006 | Examiner Office Action |

## X. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/835,991 | 04/16/2001 | Robert A. Unger | 50P4318.01 | 6030 |

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| EXAMINER | |
|---|---|
| LONSBERRY, HUNTER B | |
| ART UNIT | PAPER NUMBER |
| 2623 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 12/29/2006 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

DOCKETED

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/835,991 | UNGER, ROBERT A. | |
| | Examiner | Art Unit | |
| | Hunter B. Lonsberry | 2623 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 October 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-16,18-21 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16,18-21 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/27/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed 10/10/06 have been fully considered but they are not persuasive.

Applicant argues that there is no motivation to combine Nakatsuyama, Kawaguchi and Miner (Response pages 3-5).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Nakatsuyama is relied upon to teach each element of the invention except those elements which relate to the wakeup sensor switch and receiving an external wakeup signal. In an analogous art, Kawaguchi teaches the use of a power switch coupled to the sensor. The motivation to combine is that Kawaguchi teaches the use of a receiver that ensures the reception of program information and any irregular program while saving the power consumption in the receiver (column 1, lines 49-53). Further, the newly cited Miner reference is relied upon to teach receipt of an external power on signal, and provides the benefit of

transmitting control information through a secondary downstream bandwidth thus not effecting the bandwidth of the primary stream.

Further, Nakatsuyama and Miner are both classified in class 455.

Additionally, Nakatsuyama, Miner and Kawaguchi all teach the use of broadcast receivers. In Miner at column 14, lines 38-61, Miner teaches that DOCSIS modems may be configured to receive broadcast messages. Further Applicant admits on page 2 of the response that Nakatsuyama and Kawaguchi receive broadcast messages.

Therefore, the combination of Nakatsuyama, Kawaguchi and Miner is appropriate and teaches each and every element of the claims.

Applicant argues that Neither, Nakatsuyama, Kawaguchi, Miner nor their combination teach a wakeup sensor which sends a wakeup signal to a wakeup switch in direct response to a first selected signal. (pages 6-11).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The Examiner notes that it is the combination of Nakatsuyama, Kawaguchi and Miner, which teach applicants invention. (See rejection of claim 1 in the body of the rejection.)

In this case, Nakatsuyama is relied upon to teach each element of the invention except those elements which relate to the wakeup sensor switch and receiving an external wakeup signal. In an analogous art, Kawaguchi teaches the use of a power switch coupled to the sensor. The motivation to combine is that Kawaguchi teaches the use of a receiver that ensures the reception of program information and any irregular program while saving the power consumption in the receiver (column 1, lines 49-53). Further, the newly cited Miner reference is relied upon to teach receipt of an external power on signal, and provides the benefit of transmitting control information through a secondary downstream bandwidth thus not effecting the bandwidth of the primary stream.

Therefore, the combination of Nakatsuyama, Kawaguchi and Miner is appropriate and teaches each and every element of the claims.

Applicant's failure to traverse the Official Notice(s) taken in the previous action is viewed as admission of prior art.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims **1-2, 4-9, 11,13-15,** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,658,231 to Nakatsuyama in view of U.S. Patent 6,271,893 to Kawaguchi and U.S. Patent 6,990,655 to Miner.

Regarding claim **1,** Nakatsuyama teaches a broadcast receiver comprising: a power supply having a power-supply output terminal (See Fig. 6 Power System 276 and Col. 13 lines 45-50) and a broadcast interface circuit including: an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency (See Fig. 6 Tuning system 252 and antenna 253 and Col. 12 lines 60-63. It is inherent that program data signals received by the antenna and the tuner must be modulated about a selected carrier frequency); a tuner having a tuner input terminal coupled to the interface circuit input terminal, wherein the tuner selects one of the signals and provides the selected signal on a tuner output terminal (See Fig. 6 Antenna 253 and Tuner System 252 See Col. 12 lines 57-67 Tuners by definition are adapted to select one of a plurality of broadcast signals and provide the selected signal to the output terminal. In this case the selected signal is the

index signal); a wake-up sensor having a wake-up sensor input terminal coupled to the interface circuit input terminal and a sensor output terminal, wherein the sensor being adapted to produce a wake-up signal on the sensor output terminal in response to first selected signal (See Fig. 6, Tuning System 252, Logic Unit 250, Antenna 253, and Demodulator 254 and Col. 2 lines 60-65, Col. 7 lines 33-38, Col. 12 lines 57-67, Col. 14 lines 41-50. Nakatsuyama teaches that the receiver can be in low-power mode when not receiving or processing program data. It is inherent that in low-power mode some circuitry used to receive and process program data is powered off. It is inherent that the receiver must power on this circuitry to receive and process program data. The receiver powers on this circuitry based on received tuning data, which is contained in the index signal, which contains information regarding when program data is to be received. The parts of the Tuning System, Demodulator, and Logic Unit that are electronically coupled to the Antenna (Input Terminal) that receive index signal (first selected signal) and power on circuitry necessary to receive and process program data in response to tuning data are the wake-up sensor).

Nakatsuyama differs from the claimed invention in that does not disclose a wake-up switch having a wake-up-switch input terminal coupled to the power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal.

In the same field of endeavor Kawaguchi teaches a digital TV broadcast system having a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal (See Fig. 1 Switch 231 Power Supply 230 and Col. 4 lines 43-48 ). It would have been obvious to one of ordinary skill in the art to modify Nakatsuyama with Kawaguchi such that Nakatsuyama included a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal as taught by Kawaguchi to provide an efficient way to power up and power down the electronic circuitry associated with receiving program information (See Kawaguchi Col. 1 lines 49-53).

The combination of Nakatsuyama and Kawaguchi fails to disclose the use of a wake up signal in direct response to a first selected signal.

Miner discloses a cable system in which a remote interface unit runs in a low power standby mode and a high power active mode, in response to a wake up command received via a downstream channel, the RIU transitions from a standby mode

to an active state in order to receive user or control information over a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kawaguchi to utilize the transmission scheme and wake up commands of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26).

Regarding claim **2**, Nakatsuyama and Kawaguchi teaches the wake-up sensor further including a second tuner tuned to a carrier frequency associated with the first selected signal (See Nakatsuyama Col. 8 lines 21-22 and Col. 12 lines 57-66 One tuner is tuned to a channel to receive index data (first selected signal)).

Regarding claim **4**, Nakatsuyama and Kawaguchi teaches wherein the tuner includes a power terminal coupled to the wake-up-switch output terminal (See Kawaguchi Fig. 1 Switch 231, Received Signal Processor 211, Tuner 213 and Col. 4 lines 1-3, 43-48 The Received Signal Processor which comprises the Tuner is connected to the wake-up switch output terminal).

Regarding claim **5**, the modified Nakatsuyama teaches a receiver further comprising a display capable of indicating a power-on condition for the receiver (See

Nakatsuyama Fig. 6 Display system 260 and Col. 13 lines 9-21 It is well known in the art that conventional display systems are capable of indicating their power condition i.e. whether they are off or on). Nakatsuyama fails to disclose where the display has a power input terminal connected to the power supply via a second switch. Kawaguchi does teach the display has a power input terminal coupled to the power supply via a second switch (See Kawaguchi Fig. 1 Switch 232, Output portion 212, Video and Audio Output Devices 218 and Col. 4 lines 8-12, 43-48). It would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama with Kawaguchi so that Nakatsuyama's display has a power input terminal connected to the power supply via a second switch. The motivation for a second switch would have been the ability to power the display system independent of the other components.

Regarding claim **6**, the modified Nakatsuyama teaches wherein power is independently delivered to the display system and the program receiving circuitry, it would have been obvious that the display does not indicate a power-on condition in response to the wake-up signal, since the wake-up signal only powers on the receiving circuitry and thus the display system would remain off and indicate such (See Kawaguchi Fig. 1 Switch 231, 232, and Col. 4 lines 38-59).

Regarding claim **7**, the modified Nakatsuyama discussed in regards to claim 1, teaches a receiver further comprising a processor having a processor power terminal

coupled to the wake-up-switch output terminal (See Kawaguchi Fig. 1 received signal processor 211 and Col. 4 lines 43-48).

Regarding claim **8,** Nakatsuyama teaches a broadcast communication network comprising: broadcast head-end adapted to broadcast a plurality of signals about a corresponding plurality of carrier frequencies (See Fig. 6 and Col 2 lines 1-30), the signals including an occasional wake-up instruction (See Col. 7 lines 32-49 and Col. 12 lines 15-18 Index signal is used to wake-up receiving and processing circuitry); a plurality of receivers adapted to receive the plurality of signals (See Col. 4 lines 12-15 each end user's receiver), each receiver including: a power supply having a power-supply output terminal (See Fig. 6 Power System 276 and Col. 13 lines 45-50); and a broadcast interface circuit including: an interface-circuit input terminal adapted to receive a plurality of broadcast communications signals, each signal modulated about a selected carrier frequency (See Fig. 6 Tuning system 252 and antenna 253 and Col. 12 lines 60-63. It is inherent that program data signals received by the antenna and the tuner are modulated about a selected carrier frequency); a wake-up sensor having a sensor input terminal coupled to the interface circuit input terminal and a wake-up-sensor output terminal, wherein the wake-up sensor produces a wake-up signal on the wake-up-sensor output terminal directly in response to receiving a first selected signal (See Fig. 6, Tuning System 252, Logic Unit 250, Antenna 253, and Demodulator 254 and Col. 2 lines 60-65, Col. 7 lines 33-38, Col. 12 lines 57-67, Col. 14 lines 41-50. Nakatsuyama teaches that the receiver can be in low-power mode when not receiving

or processing program data. It is inherent that in low-power mode some circuitry used to receive and process program data is powered off. It is inherent that the receiver must power on this circuitry to receive and process program data. The receiver powers on this circuitry based on received tuning data, which is contained in the index signal, which contains information regarding when program data is to be received. The parts of the Tuning System, Demodulator, and Logic Unit that are electronically coupled to the Antenna (Input Terminal) that receive index signal (first selected signal) and power on circuitry necessary to receive and process program data in response to tuning data are the wake-up sensor).

Nakatsuyama does not specifically teach a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal. In the same field of endeavor Kawaguchi teaches a digital TV broadcast system having a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal (See Fig. 1 Switch 231 Power Supply 230 and Col. 4 lines 43-48 ). Thus, it would have been

obvious to one of ordinary skill in the art to modify Nakatsuyama with Kawaguchi such that Nakatsuyama included a wake-up switch comprising a wake-up switch input terminal coupled to a power-supply output terminal, a wake-up-switch output terminal, and a wake-up-switch control terminal coupled to the wake-up-sensor output terminal to receive the wake-up signal, wherein the wake-up switch is closed in direct response to receiving the wake-up signal thereby providing power from the power-supply output terminal to the wake-up switch output terminal as taught by Kawaguchi to provide an efficient way to power up and power down the electronic circuitry associated with receiving program information (See Kawaguchi Col. 1 lines 49-53).

The combination of Nakatsuyama and Kawaguchi fails to disclose the use of a wake up signal in direct response to a first selected signal.

Miner discloses a cable system in which a remote interface unit runs in a low power standby mode and a high power active mode, in response to a wake up command received via a downstream channel, the RIU transitions from a standby mode to an active state in order to receive user or control information over a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kawaguchi to utilize the transmission scheme and wake up commands of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4; lines 20-26).

Regarding claim **9**, the modified Nakatsuyama teaches the wake-up sensor further including a second tuner tuned to a carrier frequency associated with the first selected signal (See Nakatsuyama Col. 8 lines 21-22 and Col. 12 lines 57-66).

Regarding claim **11,** the modified Nakatsuyama teaches the interface circuit including a second tuner having a tuner input terminal coupled to the interface input terminal, wherein the second tuner is adapted to select one of the signals and provide the selected signal on a tuner output terminal (See Nakatsuyama, Fig. 6 Antenna 253 and Tuner System 252 and Col. 12 lines 60-63; the electrical coupling is the input and output terminals);

Regarding claim **13,** the modified Nakatsuyama teaches wherein the second tuner includes a power terminal coupled to the wake-up-switch output terminal (See Kawaguchi Fig. 1 Switch 231, Received Signal Processor 211, Tuner 213 and Col. 4 lines 1-3, 43-48 The Received Signal Processor which comprises the Tuner is connected to the wake-up switch output terminal).

Regarding claim **14**, the modified Nakatsuyama teaches a receiver further comprising a display capable of indicating a power-on condition for the receiver (See Nakatsuyama Fig. 6 Display system 260 and Col. 13 lines 9-21. It is inherent that conventional display systems are capable of indicating a power condition i.e. whether

they are off or on). Nakatsuyama fails to disclose where the display has a power input terminal connected to the power supply via a second switch. Kawaguchi does teach the display (Fig.1, Video/Audio Output Device 218) has a power input terminal coupled to the power supply (230) via a second switch. (See Kawaguchi Fig. 1 Switch 232 and 212 Output portion). It would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama with Kawaguchi so that Nakatsuyama's display had a power input terminal connected to the power supply via a second switch. The motivation for a second switch would have been the ability to power the display system independent of the other components.

Regarding claim **15**, in the modified Nakatsuyama where power is independently delivered to the display system and the program receiving circuitry, it would have been obvious that the display does not indicate a power-on condition in response to the wake-up signal, since the wake-up signal only powers on the receiving circuitry and thus the display system would remain off and indicate such (See Kawaguchi Fig. 1 Switch 231, 232, and Col. 4 lines 38-59).

3. Claims **16** and **18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,271,893 to Kawaguchi et al. in view of U.S. Patent 6,054,981 to Kimoto et al and U.S. Patent 6,690,0655 to Miner.

Regarding claim **16**, Kawaguchi teaches a method of reducing power usage in a broadcast receiver (See Col. 8 lines 2-5), the method comprising: monitoring, in a standby mode (See Col. 4 lines 38-43 when only the controller, I/O devices and the IF are powered, the receiver is in standby mode), a user-input device for a power-on instruction (See Col. 4 lines 24-34 I/O devices 227, it is inherent that controlling the digital receiver would include a powering-on instruction); monitoring the user-input device for a power-off instruction (See Col. 4 lines 24-34 I/O devices 227, it is inherent that controlling the digital receiver would include a powering-off instruction); and monitoring, with the receiver in the standby condition, a broadcast communication channel for a wake-up instruction (See Fig. 1 Second transmission media 5, Communication IF 228, Switch 231 Col. 4 lines 34-59 and Fig. 9 Step 444 Turn on the switch 231 and Col. 8 lines 25-30 turning on the switch 231 wakes-up the receiver) and providing power to a first portion including a control processor of the receiver in direct response to receiving the wake-up instruction (See Fig. 9 Col. 8 lines 25-33).

Kawaguchi does not specifically disclose indicating a power-on condition for the receiver in response to the power-on instruction or indicating a standby condition for the receiver in response to the power-off instruction or indicating a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction, nor providing power to a first portion including a control processor. However, Kawaguchi's does teach an indicator (See Col. 7 lines 37-40) and indicating various power modes for an electronic device is well known in the art as taught in Kimoto (See Fig 3. and Col. 4 lines 37-42).

It would have been obvious to one of ordinary skill in the art to modify Kawaguchi with Kimoto to indicate a power-on condition for the receiver in response to the power-on instruction or indicate a standby condition for the receiver in response to the power-off instruction, or indicate a standby condition for the receiver while receiving a receiver update, in direct response to receiving the wake-up instruction, as well as indicating the appropriate power mode of the receiver at any given time during the receiver's operation. The motivation for such a modification would have been so that the various power modes could be displayed.

Miner discloses that in response to a wakeup command, a receiver goes into a full power mode in order to receive maintenance messages , establish resynchronization, and status messages via an active mode processor 407 (column 11, lines 2-23column 13, line 47-column 14, line 37, figures 4/7) the wake up message is received via a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kimoto to utilize the transmission scheme and wake up commands to wake up the control processor of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26).

Regarding claim **18**, the modified Kawaguchi teaches upon receipt of a power-on instruction in the standby condition providing power to the first portion and a second portion of the receiver (See Col. 4 lines 58-59 when both switches are closed first portion discussed with regards to claim 17 and output portion 212 are powered) and indicating the power-on condition (See discussion regarding claim 16).

Regarding claim **19**, the modified Kawaguchi further teaches indicating a power-on includes providing a video signal to a video display device (See Col. 4 line 8-12 It is inherent that a video signal is provided to a video display device in response to a power-on instruction).

Regarding claim **20**, the modified Kawaguchi further teaches a user input device (See Fig. 1 I/O devices 227 and Col. 4 lines 24-33). Kawaguchi and Kimoto do not explicitly state that the user interface device comprises an infrared receiver. The examiner takes Official Notice that a user interface device comprising an infrared receiver is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify Kawaguchi, Kimoto and Miner so that its interface device comprises an infrared receiver. The motivation for such a modification would have been the ability to control the receiver remotely.

4. Claims **3, 10, 12** rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,271,893 to Kawaguchi et al. in view of U.S. Patent 6,054,981, and further in view of U.S. Patent publication 2002/0073423 to Krakirian.

Regarding claims **3** and **10,** Nakatsuyama as modified by Kawaguchi and Miner teaches the broadcast signals are already digitized when the receiver receives them (See Abstract). Nakatsuyama does not include a digitizer in his receiver. However, analog broadcast systems with receivers that include analog tuners and digitizers where the digitizer is coupled between the tuner and an output that requires a digital input are well known in the art as disclosed in Krakirian (See Fig. 1 A/D Converter 16 and Paragraph 31).

In light of the teaching from Krakirian, it would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama, Kawaguchi and Miner such that it includes a digitizer coupled between the tuner and the wake-up-switch control. The motivation of such a modification would have been having a receiver capable of receiving an analog signal that can communicate with digital circuitry.

Regarding claim **12,** Nakatsuyama as modified by Kawaguchi teaches a processor (See Fig. 6 Logic Unit 250 and Col. 12 57-60). Nakatsuyama teaches the broadcast signals are already digitized when the receiver receives them (See Abstract). Nakatsuyama does not include a digitizer in his receiver. However, analog broadcast systems with receivers that include analog tuners and digitizers where the digitizer is

coupled between the tuner and a processor well known in the art as disclosed in Krakirian (See Fig. 1 16 A/D converter and Paragraphs 30 and 31). In light of the teaching in Krakirian, it would have been obvious to one of ordinary skill in the art to further modify Nakatsuyama, Kawaguchi and Miner such that it includes a digitizer coupled between the tuner and the processor. The motivation of such a modification would have been having a receiver capable of receiving an analog signal that can communicate with digital circuitry.

5. Claims **21 and 23,** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,271,893 to Kawaguchi in view of U.S. Patent 6,990,655 to Miner.

Regarding claim **21**, Kawaguchi teaches a broadcast receiver (See Fig. 1 TV receiver 4) comprising: means for monitoring a user-input device for a power-on instruction (See Fig. 1 I/O Devices 227, Controller 225, Switches 231 and 232, and Col. 4 lines 24-58 The Controller monitors the I/O devices for user command to execute. The Controller executes powering on the receiver by closing Switches 231 and 232. It is inherent that the I/O device must include power-on instructions so that the user can power-on the receiver to view channels); display means for indicating a power-on condition for the receiver in response to the power-on instruction (See Fig. 1 Switches 231 and 232, Video & Audio Output Devices 218 and Col. 4 lines 1-12, 38-59. Power-on condition is when both switches are closed. Power off condition is when switch 232 is open. It is inherent that the Video Output Device will display an image when

powered-on.); means for monitoring the user-input device for a power-off instruction (See Fig. 1 I/O Devices 227, Controller 225, Switches 231 and 232, and Col. 4 lines 24-58. The Controller monitors the I/O devices for user command to execute. The Controller powers off the receiver by opening Switches 231 and 232. It is inherent I/O device must include power-off instructions so that the user can power-off the receiver); means responsive to the power-off instruction for indicating a power-off condition for the receiver (See Fig. 1 Video & Audio Output devices 218 and Col. 4 lines 1-12. It is inherent that Video Output Device will not display an image when powered-off); and means for monitoring a broadcast communication channel for a wake-up instruction with the receiver in the power-off condition, wherein the means for monitoring the broadcast communication channel includes a power switch for providing power to a control processor in direct response to the wake-up instruction (See Fig. 1 Communication IF 228, Controller 225, Signal processor 211, and Switches 231 and 232 Fig. 9 Col. 4 lines 24-58, Col. 8 lines 25-33 The Controller monitors the Communication IF for interrupt. Interrupt (Wake-up) instruction closes Switch 231, which provides power to Processor 211).

Kawaguchi fails to disclose providing power to a control processor in response to the wake up instruction.

Miner discloses that in response to a wakeup command, a receiver goes into a full power mode in order to receive maintenance messages , establish resynchronization, and status messages via an active mode processor 407 (column 11, lines 2-23column 13, line 47-column 14, line 37, figures 4/7) the wake up message is

received via a secondary downstream channel without adversely impacting the throughput rate of the primary downstream channel (column 4, lines 7-44).

Therefore, it would have been obvious to one skilled in the art at the time of invention to modify the combination of Nakatsuyama and Kimoto to utilize the transmission scheme and wake up commands to wake up the control processor of Miner for the advantages of lower power consumption and reducing the amount of bandwidth needed for control commands via the primary downstream channel (column 4, lines 20-26).

Regarding claim **23**, Kawaguchi further teaches wherein the display means indicates the power-off condition when the power switch provides power to the processor in response to the wake-up instruction (See Kawaguchi Fig. 1 Switch 231, 232, Video & Audio Output Devices 218, and Col. 4 lines 38-59. Wake-up condition only closes switch 231, thus Processor 211 is powered on and Video & Audio Output Devices are still powered off. Video Output Device not displaying an image is powered off).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hunter B. Lonsberry whose telephone number is 571-272-7298. The examiner can normally be reached on Monday-Friday during normal business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HBL

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